

ROMANENKO, M.V., inzhener.

Application of the regenerative cycle of a VK-50-1 turbine. Elek.
sta. 25 no.6:17-19 Je '54. (MLRA 7:7)
(Steam turbines)

ROMANENKO, H.

Into the "treasure chest of the Pioneer two-year plan." IUn.
nat. no.6:2 Je '61. (MIRA 14:7)

1. Inspektor shkol Oblastnogo otdela narodnogo obrazovaniya,
Belgorod.

(Belgorod Province--Student activities)

KALMYKOV, A., rabochiy-obrubshchik (Stalingrad); IEROMAYEV, S. (Baku); MAVLYUTOVA, R.; SHCHEBLANOV, N.; SAVENKOV, P.; TRESNIKOVA, R.; CHICHIKINA, N.; LYAMSEV, V.; ROMANENKO, N. (Krasnoyarskiy kray); SUKHORUKOV, Ya.; GAYDRIK, P. (g.Gor'kiy); KALITKOV, A. (Kostroma).

Letters to the editors. Sov. profsoiuzy 17 no. 3:42-47 F '61.
(MIRA 14:2)

1. Direktor sredney shkoly No. 17, Chelyabinsk (for Mavlyutova).
2. Predsedatel' Belgorodskogo obkoma profsoyuza rabochikh pishchevoy promyshlennosti (for Shcheblanov). 3. Predsedatel' prezidiuma postoyanno deystvuyushchego proizvodstvennogo soveshaniya tsekha kholodnoy shtampovki zavoda "Rostsel'mash" (for Savenkov).
4. Sekretar' Oymyakonskogo raykoma profsoyuzna rabochikh.
(Trade unions)

ROMANENKO, N.F.

Exhibition of the results of work on a school experimental plot.
Biol. v shkole no.3:47-53 My-Je '61. (MIRA 14:7)

1. Severo-Osetinskiy pedagogicheskiy institut.
(Ossetia--School gardens)

ROMANENKO, N.F.

System of working with students on the preparation of visual aids.
Biol. v shkole no.3:24-28 My-Je '63. (MIRA 16:10)

1. Severo-Osetinskiy pedagogicheskiy institut.

ROMANENKO, N.F.

Making the teaching aid "The spider and its web." Biol.v shkole
no.5:91-92 S-O '59. (MIRA 13:8)

1. Severo-Osetinskiy gosudarstvennyy pedagogicheskiy institut.
(Entomology--Audio-visual aids)

ROMANENKO, N.I., kand.tekhn.nauk; ZUYEVA, R.M., inzh.

Activity of tripolilike rocks as hydraulic additives. Stroi.mat.
8 no.7:35-37 J1 '62. (MIRA 15:8)
(Binding materials)

YANOVSKIY, I.I., inzh.; TENENBAUM, M.M., kand.tekhn.nauk; ROMANENKO, N.K.,
inzh.

Reducing internal stresses in soldering-on hard-alloy plates. Vest.
mash. 40 no.5:52-57 My '60. (MIRA 14:4)
(Solder and soldering) (Metal-cutting tools)

TENENBAUM, M.M., kand.tekhn.nauk; KOSTROMIN, A.Ye., inzh.; ROMANENKO,
N.K., inzh.; YANOVSKIY, I.I., inzh.

Thermal conditions of the performance of bits of cutting
machines and coal combines. Vest.mash. 40 no.4:11-14
Ap '60. (MIRA 13:6)
(Coal mining machinery) (Thermal stresses)

ROMANENKO, N. L.

ROMANENKO, N. L. - "Hygienic Characteristics of the Food Value of a Rational Menu." Sub 22 Sep 52, First Moscow Order of Lenin Medical Inst. (Dissertation for the Degree of Candidate in Medical Sciences).

SO: Vechernaya Moskva January-December 1952

USSR / Diseases of Farm Animals. General Problems.

R

Abs Jour : Ref Zhur - Biol., No 22, 1958, No 101307

Authors : Rakhlenko, Ye. Z.; Romanenko, N. M.
Inst : Moscow Technological Institute of Meat and Dairy
Industry.

Title : Intravenously Injected Proteinopyrolysine in Some
Surgical Diseases of Farm Animals.

Orig Pub : Sb. stud. rabot Mosk. tekhnol. in-t myasn. i mo-
lochn. prom-sti, 1958, vyp. 5, 100-102

Abstract : As the first fraction of proteinopyrolysine (a
product of thermal protein decomposition) was in-
travenously injected in 50 ml. doses of a 2-5%
solution in cases of complications occurring when
castrations took place and occasional wounds were
present in horses, resorption of tissue edema was
promoted, along with self-purification of wounds

Card 1/2

USSR / Diseases of Farm Animals. General Problems.

R

Abs Jour : Ref Zhur - Biol., No 22, 1958, No 101307

and granulation development. The healing of wounds was accelerated. Following 3 injections of the preparation, experimentally induced turpentine abscesses ripened 2-3 days earlier as compared with controls; edema resorption and shedding of dead tissue progressed faster. -- A. D. Musin.

Card 2/2

2

ROMANENKO, N.N.

Dynamic model of a bird's leg. Biol. v shkole no. 6:77-80
N-D '60. (MIRA 14:1)

1. Inspektor shkol Belgorodskogo oblastnogo otдела narodnogo
obrazovaniya.

(Ornithology--Audio-visual aids)

ROMANENKO, N. N.

DECEASED

Aug '54

1961

1

Microbiology
Influenza

see IIC

YUPKO, L.D.; BALON, I.D.; KAYSTRO, H.P.; LITVINENKO, V.I.; ONOPRIYENKO, V.P.,
kand. tekhn. nauk; ROMANENKO, H.T.; TULUYEVSKAYA, T.A.

Arrangement of additional tuyeres, and their effect on blast
furnace performance. Sbor. trud. UNIIM no.9:71-98 '64
(MIRA 18:1)

BALON, I.D., kand. tekhn. nauk; ROMANENKO, N.T., inzh.

Optimum slag composition in the smelting of ferromanganese.
Stal' 22 no.6:494-495 Je '62. (MIRA 16:7)

1. Ukrainskiy nauchno-issledovatel'skiy institut metallov.
(Ferromanganese) (Slag--Analysis)

MARGULIS, Pavel Semenovich; ROMANENKO, Nikolay Trofimovich; DROZHZHIN,
Yu.N., red.; SMIRNOVA, M.I., tekhn.red.

[Guide for practical laboratory work in heat engineering;
course on machinery] Rukovodstvo k praktikumu po teplotekhnike
(kursa mashinovedeniia). Moskva, Gos.uchebno-pedagog.izd-vo
M-va prosv., 1961. 60 p. diagrs. (MIRA 15:2)
(Heat engineering)

ROMANENKO, N.T., kand.tekhn.nauk, dotsent

Cooling of superchargin air in turbine-piston engines. Izv.vys.
ucheb.zav.; mashinostr. no.1:57-61 '62. (MIRA 15:4)

1. Kolomenskiy teplovozostroitel'nyy zavod i Moskovskiy
vecherniy mashinostroitel'nyy institut.
(Superchargers)

BALON, I.D.; LITVINENKO, V.I.; TULUYEVSKAYA, T.A.; ROMANENKO, N.T.

Making ferromanganese at the Zaporozhstal' Plant. Metallurg
6 no.12:4-6 D '61. (MIRA 14:11)

1. Ukrainskiy institut metallov i zavod "Zaporozhstal'".
(Zaporozhye--Ferromanganese)

KRUTOV, V.I., doktor tekhn. nauk, prof.; ROMANENKO, N.T., kand. tekhn. nauk, dotsent; IGNATENKO, V.V., kand. tekhn. nauk, dotsent

Effect of masses connected with the servomotor piston on transient processes. Izv. vys. ucheb. zav.; mashinostr. no.5:87-93 '65. (MIRA 18:11)

1. Moskovskoye vyssheye tekhnicheskoye uchilishche im. Baumana.

BALON, I.D., kand.tekhn.nauk; ROMANENKO, N.T., inzh.; BOLKUNOV, Ye.P., inzh.;
ASTAFUROV, P.I., inzh.; VOLOVIK, A.V., inzh.; TULUYEVSKAYA, T.A., inzh.

Intensification of ferromanganese smelting in large blast furnaces.
Met. i gornorud. prom. no.3:8-14 My-Je '63. (MIRA 17:1)

1. Ukrainskiy institut metallov (for Balon, Romanenko). 2. Zavod "Zaporo-
rozhtal'" (for Bolkunov, Astafurov, Volovik, Tuluyevskaya).

AUTHOR: Romanenko, N. T.

S/262/62/000/010/008/024
1007/1207

TITLE: The problem of scavenging a diesel engine equipped with a gas turbine supercharger

PERIODICAL: Referativnyy zhurnal, otdel'nyy vypusk. 42. Silovyye ustanovki, no. 10, 1962, 61, abstract 42.10.335. In collection "Gazoturbin. nadduv dvigateley vnutr. sgoroniya". Moscow, Mashgiz, 1961, 44-48

TEXT: Description is given of a tentative theoretical-experimental method developed by the author, for dimensioning the exhaust manifold of a 6-cylinder diesel engine equipped with gas-turbine supercharging. The ratio of medium pressure in the exhaust manifold to the supercharging pressure was 1.3. The following types of exhaust manifolds were tested: single-tube manifolds with a diameter of 150 mm; double tube manifolds with a diameter of 100 and 125 mm. Performance was estimated by air and fuel consumption and by the temperature in the valve and exhaust gases prior to their inlet into the turbine. Best performance figures were exhibited by the double-tube exhaust manifold with a diameter of 125 mm: air consumption increased by 18%, fuel consumption slightly decreased and temperature of valves and exhaust gases dropped by 80°C respectively. It is shown that in case of pulsating gas-turbine supercharging, scavenging is not only possible but necessary, particularly when the medium pressure in the manifold exceeds the supercharging pressure. There are 3 figures and 6 references.

[Abstracter's note: Complete translation.]

Card 1/1

S/262/62/000/009/011/017
I007/I207

AUTHORS: Ivanov, G. I., Morgulis, P. S. and Romanenko, N. T.

TITLE: Computation charts for diesel-engine turbocharging units

PERIODICAL: Referativnyy zhurnal, otel'nyy vypusk. 42. Silovyye ustanovki, no. 9, 1962, 54, abstract 42.9.299. In collection "Gazoturbin nadduv dvigateley vnutr. sgoraniya", M., Mashgiz, 1961, 149-160

TEXT: A set of charts is presented for calculating the following parameters: sizes and rotational speed of the impeller of radial-flow superchargers; mean diameter and length of blades of the central turbinstage; and conditions for joint operation of engine and turbine. The method may be applied both to a selfcontained unit and to a diesel-powered set. The various stages in the use of the computation method are dealt with and methods of plotting and practical application of the charts are described. There are 4 references.

[Abstracter's note: Complete translation.]

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BALON, I.D., kand.tekhn.nauk; ROMANENKO, N.T., inzh.; YUPKO, I.D., inzh.;
BOLKUNOV, Ye.P., inzh.; TULUYEVSKAYA, T.A., inzh.; ASTAFUROV, P.I., inzh.;
VOLOV'IK, A.V., inzh. Prinsipali uchastiye: BAKAYEV, A.I.; VOKHNIK, A.R.;
KOLOS, V.D.; KAYSTRO N.P. [deceased]; LITVINENKO, V.I.; MAKARCHENKO, N.M.;
ONOPRIYENKO, V.P.; PALAGUTA, V.P.; PIKA, V.S.; RAGIN, B.I.; ROMANCHENKO,
Ye.I.; SAYENKO, S.D.; STOLYAR, V.V.; SKORIK, N.M.; TOROPENKO, P.D.

Characteristics of making ferromanganese in large capacity blast furnaces
and the effect of slag conditions on basic technical and economic indices.
Stal' 23 no.12:1069-1073 D '63. (MIRA 17:2)

1. Ukrainskiy nauchno-issledovatel'skiy institut metallov i zavod "Zapo-
rozhtal'".

ROMANENKO, N. T.

ROMANENKO, N. T. -- "The Determination of Rational Dimensions for Exhaust Systems of Four-Stroke Engines with Gas-Turbine Pressure Feed." Min Higher Education USSR. Moscow Order of Lenin and Order of Labor Red Banner Higher Technical School imeni Bauman. Moscow, 1955.
(Dissertation for the Degree of Candidate in Technical Sciences)

SC: 'Khnizhnaya Letopis', No 1, 1956

ROMANENKO, N.T., kand. tekhn. nauk.

Determining efficient dimensions for exhaust systems of four-cycle engines having gas-turbine superchargers. [Trudy] MVTU no.76:48-71 '58. (MIRA 11:5)

(Gas and oil engines) (Superchargers)

S/145/62/000/001/004/010
D262/D308

AUTHOR:

Romanenko, M.T., Candidate of Technical Sciences,
Docent

TITLE:

Cooling supercharging air in turbo-piston engines

PERIODICAL:

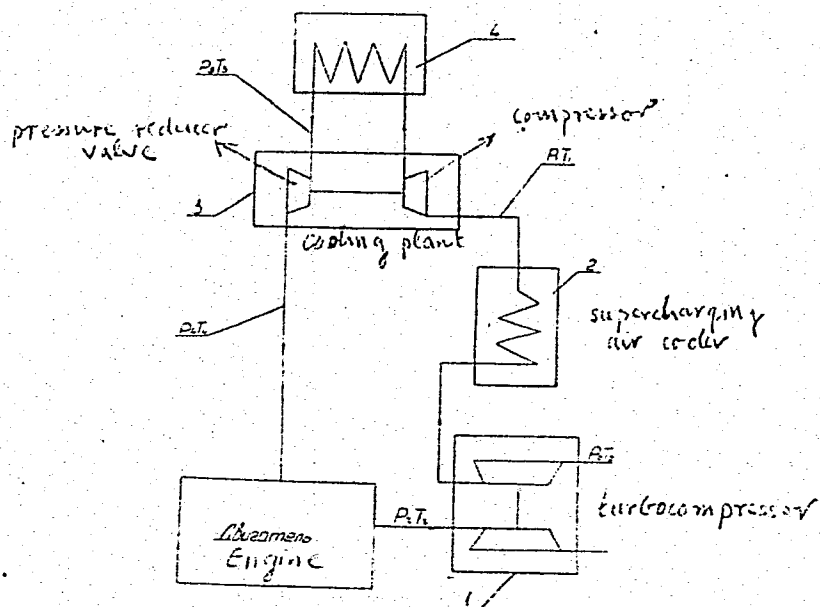
Izvestiya vysshikh uchebnykh zavedeniy. Mashino-
stroyeniye, no. 1, 1962, 57 - 61

TEXT: A new scheme of air cooling plant for Diesel locomotive en-
gines is presented (shown in Fig. 2). It is stated that this cool-
ing system is being tested on engines made by Kolomna Diesel Locomo-
tive plant. The results of the preliminary theoretical investiga-
tions together with the experimental data obtained show that the
cooling of supercharging air according to this scheme will lead to
a considerable increase in the output of Diesel locomotive engines
at increased temperatures of the surrounding medium. There are 4
figures. The English-language reference reads as follows: R. Miller,
High-pressure supercharging of oil engines, The Motor Ship, 1948,
no. 366.
ASSOCIATION: Kolomenskiy teplovozostroitel'nyy zavod i KMVI (Kolom-
na Diesel Locomotive Plant and KMVI)

Cooling supercharging air in ...

S/145/62/000/001/004/010
D262/D308

Fig. 2.



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ROMANENKO, O.M., inzh.-mekhanik

Some observations concerning ensilage stacks. Mekh. sil'. hosp. 14
no.7:12-13 JI '63. (MIRA 17:2)

ROMANENKO, O.M.; PIDLISHYUK, V.A.

Frame for adjusting the SKHK-6V planter. Mekh. sil'. hosp. 13
no.4:12-13 Ap '62. (MIRA 17:3)

1. Cherkasskaya sel'skokhozyaystvennaya opytnaya stantsiya.

ROMANENKO, O.M., inzh.

Improving KO-1608 stands for regulating fuel pumps. Mekh.sil'.hosp.
9 no.11:21-22 N '58. (MIRA 11:12)

(Fuel pumps)

ROMANENKO, P.

ROMANENKO, P. The economic victory of the Soviet people over Hitlerite Germany. Kyiv, Ukr. derzh. vyd-vo, 1946. 35 p. (50-18902)

HC335.R58

ROMANENKO, P.A. (Khar'kov)

Approximation calculation of an axisⁱmetrical flow through fixed
cascades of axial turbomachine stages with cylindrical borders.

Izv. AN SSSR. Otd. tekhn. nauk. Energ. i avtom. no.6:68-78 H-D. '59.

(MIRA 13:8)

(Turbines)

10.6300

26.2/20

S/123/60/000/022/011/013
A005/A001

Translation from: Referativnyy zhurnal, Mashinostroyeniye, 1960, No. 22, p. 341,
123351

AUTHORS: Lavina, M.Ye., Romanenko, P.A.

TITLE: An Experimental Investigation of the Separation Phenomena Behind a
Ringshaped Cascade

PERIODICAL: Tr. Khar'kovsk. politekhn. in-ta, 1960, Vol. 29, No. 2, pp. 73-87

TEXT: The results are presented of an experimental investigation of the flow behind a ringlike cascade with and without the turbine impeller in a wind tunnel. The picture of the meridian lines of the current testify that the flow is adjacent to the bush upon the exit from the cascade, thereupon, swelling of the boundary layer proceeds with increasing distance from the cascade and separation with the formation of back flows and sharp repulsion of the main flow to the periphery. It turned out that the impeller eliminates the back current zone, but it does not eliminate the driving off the flow to the periphery. K.V.D.

Translator's note: This is the full translation of the original Russian abstract.

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ACCESSION NR: AP4042865

S/0114/64/000/007/0041/0045

AUTHOR: Levina, M. Ye. (Candidate of technical sciences, Docent);
Romanenko, P. A. (Candidate of technical sciences); Grechanichenko, Yu. V.
(Engineer)

TITLE: Calculation of the distribution of stream parameters in a turbine stage
with an allowance for radial acceleration

SOURCE: Energomashinostroyeniye, no. 7, 1964, 41-45

TOPIC TAGS: turbine, turbine blade, turbine stage, turbine engine

ABSTRACT: The article is a further development of P. A. Romanenko's earlier
work (Izv. AN SSSR. Energetika i avtomatika, 1959, no. 6). A method is set
forth for calculating the distribution of cylindrical-stream parameters in a
turbine stage with an allowance for the region occupied by the rotor blades and the
ring space beyond these blades. Three variants of the stages of an experimental

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ACCESSION NR: AP4042865

air turbine were calculated by the above method with a view toward investigating the effect of the movable-blade twist on the flow beyond the nozzle row. The blade length, 81.5 mm, and outside diameter, 500 mm, were kept constant; the twist pattern and nozzle-diaphragm width were varied. The latter parameter was found to have the strongest influence on the stream distribution. Orig. art. has: 5 figures and 27 formulas.

ASSOCIATION: Khar'kovskiy politekhnicheskii institut im. V. I. Lenina
(Khar'kov Polytechnic Institute)

SUBMITTED: 00

ENCL: 00

SUB CODE: PR

NO REF SOV: 006

OTHER: 001

Cord 2/2

LEVINA, M.Ye., dots.; ROMANENKO, P.A., inzh.

Distortion of the cylindrical form of the flow in a turbine stage with cylindrical walls. Izv.vys.ucheb.zav.; energ. 2 no.8:52-61 Ag '59. (MIRA 13:2)

1. Khar'kovskiy politekhnicheskij institut imeni V.I.Lenina.
Predstavlena kafedroy turbinostroyeniya.
(Stream turbines)

8(6), 9(3)

SOV/143-58-11-13/16

AUTHORS:

Levina, M.Ye., Candidate of Technical Sciences,
Docent, Romanenko, P.A., Engineer

TITLE:

The Flow Separation Phenomena in Annular Grids

PERIODICAL:

Izvestiya vysshikh uchebnykh zavedeniy, Energetika,
1958, Nr 11, pp 92-108 (USSR)

ABSTRACT:

The experimental investigations of isolated annular grids with relatively small D/l values show phenomena of flow separation from the hub in the space behind the annular grid. These phenomena are observed inside the grid itself at very small D/l values. These phenomena might cause fear that the flow separation will occur also in operational turbine stages. Further they might lead to doubt in using experimental data obtained during annular grid tests for analyzing the function of a turbine stage. K. Bammert and H. Kläukens [Ref 1] explained for the first time theoretically the flow separation from the hub, applicable to turbines, using the principle of the "maximum flow" or the "minimum pressure drop". They used a number of

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The Flow Separation Phenomena in Annular Grids SOV/143-58-11-13/16

assumptions for simplification: 1) A cylindrical flow was assumed behind the outlet section of the grid (Section I, as shown in figure 1b) and in the zone of maximum flow separation development (section II). 2) An ideal liquid was taken into consideration, permitting the assumption of a constant pressure at the flow separation boundary. 3) An incompressible liquid was considered. 4) A sufficiently long section of a cylindrical tube was assumed behind the annular grid, permitting a free development of the flow separation zone. The authors of this paper investigated in which way the aforementioned solution will correspond to actual conditions and studied for this reason a number of factors influencing the flow separation phenomena. The assumptions of the cylindrical flow behind the grid and in the far section, in the area of maximum stagnation zone development, leads to some contradictions. Investigating the influence of the meridional curvature, the authors state that it is necessary to abandon the assumption of the cylindrical flow in sections I and II (Figure 1b). It is more

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The Flow Separation Phenomena in Annular Grids SOV/143-58-11-13/16

natural to assume a flow curved in the meridional plane in the outlet section of the grid, considering it as a cylindrical flow in section II, which also corresponds to experimental data. The results of the calculations conducted by the authors show: 1) The curvature of the meridional trajectory at the outlet section of the annular grid changes sharply in dependence of the hub ratio and the angle α_1 , as shown in a graph, figure 2. With increased hub ratio, the magnitude of radial acceleration, or more accurately, the change of radial velocity $c'r_k$ is reduced along z , turning to zero at a critical hub ratio. The latter depends on the angle α_1 . 2) The radius of the stagnation zone in the area, where the flow already may be considered as being cylindrical, decreases essentially with an increasing angle α_1 and depends very little on the hub ratio. 3) The pressure of a meridional trajectory curvature in the outlet section of the grid leads to a disturbance of the law of velocity component changes on the radius. 4) The deviation

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The Flow Separation Phenomena in Annular Grids SOV/143-58-11-13/16

of the flow characteristic distribution in section I leads to a very strong disturbance of the law of velocity component changes in section II. 5) The low parameter distribution on the radius in section I depends on the flow conditions in section II. The statement in Ref 17 that the working blades are not fully used in stages with lengthened blades at small angles α_1 , requires checking. The authors investigate the influences of increased pressure at the flow separation boundary, compressibility and twist. For the experimental investigation a wind tunnel with turbine blade grids Nr 1 and Nr 2 and an air turbine with grid Nr 3 were used. The data for these grids are listed in table 1. The authors present the experimental investigation results in 19 graphs, dealing with meridional flow lines, static pressure changes and distribution, the influence of flow conditions on the annular grid and the component velocity profile. For the theoretical investigation certain assumptions were made concerning the liquid flow behind the annular grid. One of the most essential errors is caused by

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The Flow Separation Phenomena in Annular Grids SOV/143-58-11-13/16

assuming the absence of viscosity. However, taking into consideration theoretically the influence of viscosity on separation phenomena is very complicated. The fact that the actual border of the stagnation area is below the theoretical one, may be explained by the viscous interaction between the basic flow and the stagnation area. As a result, the axial velocity is considerably reduced while the section of the basic flow is increased. In this way, the presence of viscosity in some way increases the flow stability. There are 22 graphs, 1 table and 3 German references.

ASSOCIATION: Khar'kovskiy politekhnicheskii institut imeni V.I. Lenina (Khar'kov Polytechnic Institute imeni V.I. Lenin) Kafedra Turbostroyeniya (Chair of Turbine Building)

SUBMITTED: June 28, 1958

Card 5/5

ROMANENKO, P.N.; KRYLOVA, N.V.

Effect of inlet conditions on heat transfer in the starting section
of a tube. Inzh.-fiz. zhur. 7 no.4:8-17 Ap '64. (MIRA 17:4)

1. Lasotekhnicheskiy institut, Moskva.

88912

S/143/60/000/004/004/007
A163/A026

26.2120

AUTHORS: Levina, M. I., Candidate of Technical Sciences, Lecturer; Romanenko, P. A., Engineer

TITLE: Experimental Research on the Irregularities of Cylindrical Flow in a Turbine Stage With Cylindrical Boundaries

PERIODICAL: Energetika, 1960, No. 4, pp. 64 - 70

TEXT: The article deals with experimental research work carried out on the irregularities of cylindrical flow in a turbine stage with cylindrical boundaries. The author presents the results of experiments performed on the curvature of meridian flow lines in a stage with strict cylindrical contours of the turbine section between inlet and outlet valve through which steam passes. C-1 (S-1) with a chord width of $b_x = 41.2$ mm was used as profile for the nozzle grid and for the working vane T-2 (T-2) with $b_x = 25$ mm. The relation of $\lambda = \frac{L}{b_x} = 5.13$. The outlet angle of the nozzle grid α_1 , in previous experiments equal to 120° , was increased to 140° . The negative stage reactivity was eliminated after turning the working vanes by 40° . Hereby, P_k proved to be equal to $+(4 \div 8)\%$. In order to build meridian flow lines. "traversirovaniye" [Abstractor's note: mean-

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S/143/60/000/004/004/007
A163/A026

Experimental Research on the Irregularities of Cylindrical Flow in a Turbine Stage With Cylindrical Boundaries

ing unknown] were carried out on various distances z from the nozzle grid, i.e., on the rim clearance section and behind the runner. Subsequent measurements were made using three Γ -shaped tubes which made it possible to reach the walls as close as 0.5 mm. Due to considerable stage irregularities and inadequate precision in the assembly of the nozzle grid, the "traversirovaniye" along the circumference was performed in a section comprising six stages with intervals of about $\frac{1}{8}$ of a stage, i.e., in 48 points on each radius. Only at high values of z (60 - 100 mm) it was possible to eliminate the oscillations of the flow along the circumference and to decrease considerably the number of measuring points. The author concludes that the obtained quantity relations may be applied only to a stage with given geometrical characteristics. The results of experiments confirmed the possibility of considerable deviations in the distribution of pressure, angles and component speeds along the radius (without consideration of meridian curvatures, not even in a stage with cylindrical boundaries). There are 6 figures and 3 references: 2 Soviet and 1 German.

ASSOCIATION: Khar'kovskiy politekhnicheskii institut imeni V.I. Lenina (Khar'kov Polytechnical Institute imeni V.I. Lenin)
PRESENTED: by the Department of Turbine Construction

Card 2/2

LEVINA, N.Ye.; NOVAKOVIC, I.M.

Experimental study of separation zone behind the annular cascade. Izv. Akad. Nauk SSSR, 1967, 180. (NACA 14:10)
(Turbomachines--Fluid dynamics)

89424

S/143/60/000/006/004/008
A169/A026

26.2120
AUTHORS:

Levina, M.Ye., Candidate of Technical Sciences, Docent; Romanenko,
P.A., Engineer

TITLE:

The Effect of the Clearance Between Rims on the Loss Distribution
in a Turbine Stage

PERIODICAL:

Izvestiya vysshikh uchebnykh zavedeniy, Energetika, 1960, No. 6,
pp. 78 - 85

TEXT:

The application of wide clearances between rims is made very tempting by the adjustment of the pitch irregularity in the flow with increasing distances from the nozzle cascade, especially for gas turbines, where the absence of shroud rings deteriorates the blade vibration characteristics. However, increasing the clearance between the rims can lead to additional losses. Contradictory experimental data published by various authors (Refs. 1, 2 and 3) show that this effect has not yet been sufficiently studied. For example, experiments at MAI (MAI) show a 7 - 15% efficiency increase upon enlarging the clearance between rims by 7 mm. This result is hardly justified, since it would mean a 25 - 50% efficiency increase of the working blades. The authors present the results of an investigation of a turbine stage with a cylindrical outline of the flow

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S/143/60/000/006/004/008
A169/A026

The Effect of the Clearance Between Rims on the Loss Distribution in a Turbine Stage

area, which is obtained by using a stage without a shroud ring. The average radial clearance in the periphery was 0.75 mm at a blade height of 81.5 mm. The same turbine stage, and partially the same experiments, were used like in the experiments described by the authors in a previous paper (Ref. 5). The results of the investigation are compiled in 9 graphs. The authors arrived at the following conclusions (valid only for the given turbine stage): 1) With increasing distances from the nozzle cascade, the flow energy decreases essentially, mainly because of losses at the flow borders. 2) From the view point of losses at the working blades, an optimum value is found for the clearance between the rims at which the pitch irregularity of the flow has already been sufficiently adjusted, while the radial irregularity is not yet sufficiently developed due to a deviating of the boundary layers. 3) Losses in the outlet velocity caused by a displacement of the flow towards the periphery and the formation of a stagnation zone at the blade root are distributed very irregularly over the radius and constitute a very essential magnitude. 4) The presence of a negative degree of reactivity at the blade root causes a considerable efficiency reduction of the stage, mainly because of a deterioration of the working blade efficiency and al-

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S/143/60/000/006/004/008
A169/A026

The Effect of the Clearance Between Rims on the Loss Distribution in a Turbine Stage

so as a result of growing losses by the outlet velocity and the relative share of the losses in the nozzles (the efficiency of the nozzle cascade remains unchanged). 5) The internal efficiency of a stage decreases essentially with an increase of the clearance between the rims. 6) For shorter blades the clearance between the rims will have a greater effect because of the increase in the relative share of losses at the borders of the flow. - A note from the editor says that this paper is published as a subject of discussion. There are 9 figures and 5 Soviet references.

ASSOCIATION: Khar'kovskiy politekhnicheskiy institut imeni V.I. Lenina (Khar'kov Polytechnical Institute imeni V.I. Lenin)

PRESENTED: Department of Turbine Construction

SUBMITTED: December 12, 1959

Card 3/3

LEVINA, E.Ye., kand. tekhn. nauk, dotsent; ROMANENKO, P.A., kand.
tekhn. nauk; GRECHANICHENKO, Yu.V., ~~INZH.~~

Calculation of the distribution of the parameters of a flow
in a turbine taking into account radial acceleration.
energomashinostroenie 10 no.7:41-45 J1 '64. (KIRA 17:9)

LEVINA, M.Ye.; ROMANENKO, P.A.

Curvature of the meridian trajectory in a stage with cylinder
shapes blading. Trudy KhPI 29 no.2:39-53 '60.

(MIRA 14:10)

(Steam turbines--Design and construction)

ROMANENKO, P. A., Cand Tech Sci (diss) -- "Investigation of a turbine stage with cylindrical cross-section in the part between inlet and outlet, taking into account radial acceleration". Khar'kov, 1959. 19 pp (Min Higher and Inter Spec Educ Ukr SSR, Khar'kov Polytech Inst im V. I. Lenin), 130 copies (KI, No 10, 1960, 132)

LEVINA, M.Ye., kand.tekhn.nauk, dotsent; ROMANENKO, P.A., inzh.

Experimental study of the disturbance of the cylindrical form
of the flow in a turbine stage with cylindrical walls. Izv.
vys.ucheb.zav.; energ. 3 no.4:64-70 Ap '60.
(MIRA 13:6)

1. Khar'kovskiy politekhnicheskii institut imeni V.I.Lenina.
Predstavlena kafedroy turbinostroyeniya.
(Steam turbines--Aerodynamics)

LEVINA, M.Ye., kand.tekhn.nauk, dots.; ROMANENKO, P.A., inzh.

Effect of row clearance on distribution of losses in a turbine stage. Izv.vys.ucheb.zav.; energ. 3 no.6:78-85 Je '60.
(MIRA 13:6)

1. Khar'kovskiy politekhnicheskii institut imeni V.I.Lenina.
Predstavlena kafedroy turbostroyeniya.
(Gas turbines)

SOV/143-59-8-10/22

6(6)

AUTHOR:

Levina, M.Ye., Docent, Romanenko, P.A., Engineer

TITLE:

The Distortion of a Cylindrical Flow in a Turbine Stage With Cylindrical Borders

PERIODICAL:

Izvestiya vysshikh uchebnykh zavedeniy, Energetika, 1959, Nr 8, pp 52-61 (USSR)

ABSTRACT:

As a rule, a cylindrical flow is assumed when calculating the distribution of flow parameters along the radius in the gaps between steam turbine stages, i.e. in the radial equilibrium equation

$$\frac{\partial p}{\partial r} = p \frac{c_u}{r} - p \frac{dc_u}{dt}$$

the member $p \frac{dc_u}{dt}$ is neglected because of the small magnitude of c_u , although this does not imply a small magnitude of $\frac{dc_u}{dt}$. In addition there are many other factors which disturb the cylindrical flow. In this paper the authors discuss the influence of two factors on the curvature of the meridional flow lines. ✓

Card 1/3

SOV/143-59-8-10/22

The Distortion of a Cylindrical Flow in a Turbine Stage With Cylindrical Borders

i.e. the flow of a perfect liquid in a stage with cylindrical outlines in the absence of separation phenomena at the base. The axial symmetry of the flow and the absence of radial components of blade forces are assumed. For simplifying the analysis, the influence of the preceding stages is not considered, as well as a possible wave structure of the flow at large M values. The exact solution of the meridional flow line curvature in a turbine stage is very complicated and therefore, a preliminary estimation of the disturbances of the cylindrical flow in stages with different characteristics is performed by the authors. They investigate radial displacements and the uneven blocking of the flow channel by the blades. In Figure 4, they present meridional flow lines inside of a nozzle grid. The results of calculations for nozzle grids are shown graphically. The calculation results ✓

Card 2/3

SOV/143-59-8-10/22

The Distortion of A Cylindrical Flow in a Turbine Stage With Cylindrical Borders

are true only for blades with a constant angle α .
This paper was presented at the Kafedra turbinostroyeniya (Department of Turbine Building). There are 10 graphs and 4 references, 2 of which are American and 2 Soviet.

ASSOCIATION: Khar'kovskiy politekhnicheskiy institut imeni V.I. Lenina (Khar'kov Polytechnic Institute imeni V.I. Lenin) ✓

SUBMITTED: March 16, 1959

Card 3/3

SOV/143-59-8-10/22

8(6)

AUTHOR:

Levina, M.Ye., Docent, Romanenko, P.A., Engineer

TITLE:

The Distortion of a Cylindrical Flow in a Turbine Stage With Cylindrical Borders

PERIODICAL:

Izvestiya vysshikh uchebnykh zavedeniy, Energetika, 1959, Nr 8, pp 52-61 (USSR)

ABSTRACT:

As a rule, a cylindrical flow is assumed when calculating the distribution of flow parameters along the radius in the gaps between steam turbine stages, i.e. in the radial equilibrium equation

$$\frac{\partial p}{\partial r} = p \frac{v}{r} - p \frac{dw}{dt}$$

the member $p \frac{dw}{dt}$ is neglected because of the small magnitude of $\frac{dw}{dt}$, although this does not imply a small magnitude of $\frac{dw}{dt}$. In addition there are many other factors which disturb the cylindrical flow. In this paper the authors discuss the influence of two factors on the curvature of the meridional flow lines. ✓

Card 1/3

SOV/143-59-8-10/22

The Distortion of a Cylindrical Flow in a Turbine Stage With Cylindrical Borders

i.e. the flow of a perfect liquid in a stage with cylindrical outlines in the absence of separation phenomena at the base. The axial symmetry of the flow and the absence of radial components of the forces are assumed. For simplifying the analysis, the influence of the preceding stages is not considered, as well as a possible wave structure of the flow at large M values. The exact solution of the meridional flow line curvature in a turbine stage is very complicated and therefore, a preliminary estimation of the disturbances of the cylindrical flow in stages with different characteristics is performed by the authors. They investigate radial displacements and the uneven blocking of the flow channel by the blades. In Figure 4, they present meridional flow lines inside of a nozzle grid. The results of calculations for nozzle grids are shown graphically. The calculation results ✓

Card 2/3

SCV/143-59-8-10/22

The Distortion of A Cylindrical Flow in a Turbine Stage With Cylindrical Borders

are true only for blades with a constant angle α .
This paper was presented at the Kafedra turbinostroyeniya (Department of Turbine Building). There are 10 graphs and 4 references, 2 of which are American and 2 Soviet.

ASSOCIATION: Khar'kovskiy politekhnicheskiy institut imeni V.I. Lenina (Khar'kov Polytechnic Institute imeni V.I. Lenin) ✓

SUBMITTED: March 16, 1959

Card 3/3

LEVINA, M.Ye., dots., kand.tekhn.nauk; ROMANENKO, P.A., inzh.

Breaking-away phenomena in cascades of blades. Izv.vys ucheb.zav.;
energ. no.11:92-108 N '58. (MIRA 12:1)

1. Khar'kovskiy politekhnicheskii institut imeni V.I. Lenina.
Predstavlena kafedroy turbostroyeniya.
(Hydraulic turbines--Blades)

69932

S/024/59/000/06/009/028
E194/E255

10.3006

AUTHOR: Romanenko, P. A. (Khar'kov)

TITLE: Approximate Calculation of Axially-Symmetrical Flow Through
Cylindrically-Cased Stationary Blading in the Stages
of an Axial Turbine ²³

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye
tekhnicheskikh nauk, Energetika i avtomatika, 1959,
Nr 6, pp 68-78 (USSR)

ABSTRACT: Methods exist for calculating the distribution of flow
parameters along the radius during the flow of an ideal
compressible liquid in a turbine with cylindrical
boundaries. The methods are based on the equations of
energy, of continuity and of simplified radial
equilibrium; they assume that the radial component of
the velocity is small. However, it may not be small
if the blades are narrow, and so calculations on narrow
blades with certain kinds of twists may be much in error.
Existing methods of improving the accuracy of such
calculations are briefly reviewed, mentioning a method
of allowing for the rate of change of the radial velocity
with time, which has been published in America. This
method has its limitations, and the present article
proposes a more accurate means of calculating the

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S/024/59/000/06/009/028
E194/E255

Approximate Calculation of Axially-Symmetrical Flow Through
Cylindrically-Cased Stationary Blading in the Stages of an Axial
Turbine

distribution of flow parameters over the radius in the gap between the rims. It should be used when the influence of radial acceleration is considerable. The problem of sub-critical flow of fluid in the stages of a turbine is a boundary problem. Therefore, in order to calculate accurately the distribution of pressure and projected velocity over the radius in the gap, it is necessary to solve a system of equations that describe the flow of fluid not only within the stages, as depicted in Fig 2, but also in annular spaces before and beyond the stage. The assumptions that are made in determining the flow parameters over the radius are then stated. In addition to the usual assumptions it is supposed that radial displacements are equal at the inlet to the runner and at the outlet from the nozzle blading. Then, even in the case of an incompressible liquid, there is no need to solve a non-linear equation describing flow in the runner. Practical justification for this assumption is given. The fundamental equations are then stated, ✓

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E194/E255

Approximate Calculation of Axially-Symmetrical Flow Through
Cylindrically-Cased Stationary Blading in the Stages of an Axial
Turbine

namely, the energy Eq (1), the Euler equation in partial differential coefficients (2), and the equation of continuity with allowance for finite thickness of blading, (3). A method of combining these equations to give Eq (6) is explained. The flow before the nozzle blading satisfies the Laplace equation (7). Eq (9) describes the flow of incompressible liquid in the gap between the rims. Solutions of the equations are then given for the case of an incompressible liquid, and on the introduction of dimensionless coordinates the formulae to be solved are modified to the forms of (6a), (7a) and (9a). Solutions of these equations are then given (See Eqs (11) and (15)). A method of allowing for compressibility of the fluid is next explained. The Eqs (6a), (7a) and (9a) are solved as already shown; then the non-linear term in Eq (6) is calculated and additional free terms are obtained in the right-hand side of system (11). The new system of equations obtained in this way differs from the equations for incompressible fluid only in the free terms in the right-hand side. A solution of this system gives new

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69932

S/024/59/000/06/009/028
E194/E255

Approximate Calculation of Axially-Symmetrical Flow Through
Cylindrically-Cased Stationary Blading in the Stages of an Axial
Turbine

coefficients in Eq (15), other parts of the solution being relatively little affected. To illustrate the procedure a numerical example is worked for a turbine with an external stage diameter of 500 mm and internal diameter of 337 mm, the principal design data being given. The theoretical flow lines for one of the gaps are plotted in Fig 3 together with the position of the flow line obtained experimentally at particular sections. Fig 4 shows curves of the mean excess static pressure at a section 8.5 mm beyond the outlet edges of the nozzle blading with various distances between rims. It will be seen that in both figures (3) and (4) the experimental points lie close to the theoretical curves. There are 4 figures and 8 references 4 of which are Soviet, 3 English and 1 German.

SUBMITTED: March 31, 1959

Card 4/4

22211

S/124/61/000/003/004/028
A005/A105

26.2141

AUTHORS: Levina, M. Ye., and Romanenko, P. A.

TITLE: The theoretical investigation of the separation phenomena in annular cascades

PERIODICAL: Referativnyy zhurnal, Mekhanika, no. 3, 1961, 24, abstract 3B147.
(Tr. Khar'kovsk. politekhn. in-ta, 1960, v. 29, no. 2, 55-72)

TEXT: The results of the work of Bammert and Klaukens (Bammert, K. and Klaukens, H., Ingr.-Arch., 1949, 17) are expounded, who investigated the phenomenon of separation from the hub in application to annular cascades of turbo-machines; on the basis of the principle of maximum discharge or minimum relative drop of pressures, they conducted the investigations under the following simplifying assumptions: 1) the flow behind the exit cross section of the cascade and in the cross section of the most developed separation zone is assumed to be cylindrical; 2) the fluid is assumed to be ideal and incompressible; 3) the cylindric section of the tube behind the annular cascade has a length sufficient for the full development of the separation zone. The authors expound the results of the calculating investigations they carried out to estimate the effect of the

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22214

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The theoretical investigation ...

S/124/61/000/003/004/028
A005/A105

mentioned simplifications on the separation phenomena; the purpose is the solution of the problem, to which extent the results obtained in the mentioned work agree with the actual conditions. A certain discrepancy in the assumptions on the cylindric shape of the flow is pointed out, which were accepted in the work of Bammert and Klaukens. The calculation results show that: 1) the distortion of the meridional trajectory in the exit cross section of the annular cascade varies very sharply depending on the hub ratio and the angle α_1 ; 2) the radius of the dead zone in the section where the flow may even be assumed to be cylindrical, considerably decreases with increasing angle α_1 and depends little on the hub ratio; 3) the existence of distortion of the meridional trajectory in the outlet cross section of the cascade leads to the violation of the law of variation of the velocity components over the radius. The authors consider the effect of pressure increase in the separation boundary on the magnitude of the dead zone radius, and try to take into account the compressibility effect. The authors mention correctly that the conducted investigation of the separation phenomena for $M > 1$ has a somewhat formal character because the picture of the process is not clear for overcritical velocities. The calculating investigation of the separation phenomena in an annular cascade is presented for different laws of vortex.

A. Bunimovich

[Abstractor's note: Complete translation]
Card 2/2

LEVINA, M.Ye.; ROMANENKO, P.A.

Theoretical study of separation phenomenon in annular cascades.

Trudy KhPI 29 no.2:55-72 '60. (MIRA 14:10)

(Turbomachines—Fluid dynamics)

22215
S/124/61/000/003/005/028
A005/A105

26.2141
AUTHORS:

Levina, M. Ye., and Romanenko, P. A.

TITLE:

The experimental investigation of the separation phenomena behind an annular cascade

PERIODICAL:

Referativnyy zhurnal, Mekhanika, no. 3, 1961, 24-25, abstract 3B148.
(Tr. Kharkovsk. politekhn. in-ta, 1960, v. 29, no. 2, 73-87)

TEXT:

For taking into account the effect of viscosity on the separated flows behind an annular cascade at small angles of flow, two annular cascades were investigated in the wind tunnel as well as a pilot air turbine with cascade no. 3 was tested. The parameters characterizing the cascades are presented in the table below:

No.	D _{av} in mm	$\frac{D_{av}}{l}$	$\frac{r_{end}}{r_{nose}}$	b	$\frac{t_{av}}{b}$	$\frac{1}{b}$	α_1^0	n
1	248	3.31	0.535	108	0.6	0.69	14	12
2	325	4.33	0.625	42.4	0.62	1.75	12	38
3	418.5	5.13	0.674	41.0	0.76	1.988	12	42

Card 1/2

... out by means of
... separation zone was
... cascade no. 3 together with
... profile are presented, and the data
A. Bunimovich

... translation]

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Card 2

21731

S/123/61/000/003/020/023

A004/A104

10.6300

AUTHORS: Levina, M. Ye., and Romanenko, P. A.

TITLE: Theoretical investigations of break-off phenomena in ring-shaped grids

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 3, 1961, 26, abstract 3I193. ("Tr. Khar'kovsk. politekhn. in-ta", 1960, v. 29, no. 2, 55-72)

TEXT: The authors theoretically investigate break-off phenomena of the flow at various characteristics of ring-shaped grids and the effect of distortion of the meridional trajectory of the flow, pressure increase at the break-off boundary, compressibility of the flow and type of vortex on the distribution of the flow parameters over the radius behind the grid. They study the flow pattern in ring-shaped grids and behind them, as well as the layout of the process of break-off formation from the bushing. Equations and graphical dependences are presented of the relative pressure drop depending on the bushing ratio for various rules of profiling the blades of ring-shaped grids. The calculation results proved in particular that a distortion of the meridional flow trajectory in the outlet cross

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S/123/61/000/003/020/023

A004/A104

Theoretical investigations of break-off ...

section of the ring-shaped grid considerably varies depending on the bushing ratio and reentrant angle of the flow. This leads to a violation of the law of radial speed component change assumed during profiling. With an increase of the M number of the flow the stream in ring-shaped grids in the subsonic range becomes more stable while the admissible limit of minimum bushing ratios is reduced. X

V. Kostylev

[Abstractor's note: Complete translation]

Card 2/2

KOSTYSHIN, M.T. [Kostyshyn, M.T.]; ROMANENKO, P.F.

Some optical properties of orpiment and stibnite. Ukr. fiz. zhur.
8 no.1:102-105 Ja '63. (MIRA 16:5)

1. Kiyevskiy gosudarstvennyy universitet im. Shevchenko.
(Orpiment--Optical properties) (Stibnite--Optical properties)

KOSTYSHYN, M. T.

S/185/63/008/001/015/024
D234/D308

AUTHORS: Kostyshyn, M. T. and Romanenko, P. F.

TITLE: Some optical properties of orpiment and stibnite

PERIODICAL: Ukrayins'kyy fizychnyy zhurnal, v. 8, no. 1, 1963,
102-105

TEXT: The authors give the results of measurements of absorption coefficients of thin layers of As_2S_3 obtained by evaporation, for 250 - 500 m μ . The absorption coefficient increases smoothly up to 4.2 ev (= about 300 m μ). Single crystals in polarized light, whose electric vector is parallel to the c axis of the crystal, have two absorption maxima at 457 and 436 m μ . If the electric vector is perpendicular to the c axis there is one maximum at 431 m μ . Reflection spectra of orpiment and stibnite in unpolarized light were also measured. The former has maxima at 4.35 and 5.0 ev, the latter at 4.9 ev (distinct, due probably to direct transitions) and at 3.9 ev (blurred, owing probably to indirect transitions). There are 3 figures.

Card 1/2

Some optical properties ...

S/185/63/008/001/015/024
D234/D308

ASSOCIATION: Kyivs'ky derzhuniversytet im. T. H. Shevchenka
(Kiev State University im. T. H. Shevchenko)

SUBMITTED: July 27, 1962

Card 2/2

KOSTYSHIN, M.T.; ROMANENKO, P.F.

Dispersion of certain semiconductors in the region of absorption
bands. Opt.i spektr. 12 no.5:627-631 My '62. (MIRA 15:5)
(Semiconductors--Spectra)

S/051/62/012/005/013/021
E032/E514

24,7403

AUTHORS: Kostyshin, M.T. and Romanenko, P.F.
TITLE: Dispersion of some semiconductors in the region of absorption bands
PERIODICAL: Optika i spektroskopiya, v.12, no.5, 1962, 627-631
TEXT: The authors describe a method of measuring the refractive index as a function of wavelength of solid amorphous bodies in the region of absorption bands. The specimen is in the form of a wedge which is set up in front of the exit slit of a monochromator. The refractive index is deduced from measurements on the interference patterns obtained by reflection from the wedge. The method is particularly suitable for substances in which the ratio of the refractive index to the absorption coefficient is of the order of 3. The method has been successfully used to determine the refractive index as a function of wavelength in the range 400 - 1000 mμ for Se, SnSe₂, SbSe₃ and stibnite. There are 6 figures. ✓B
SUBMITTED: April 6, 1961
Card 1/1

L 13371-66 EWT(1)/EWP(e)/EWT(m)/T/EWP(t)/EWP(b)/EWA(h) IJP(c) JD/AT/WH
ACC NR: AP5028146 SOURCE CODE: UR/0077/65/010/006/0450/0451

AUTHOR: Kostyshin, M. T.; Mikhaylovskaya, Ye. V.; Sandul, G. A.; Romanenko, P. F.

ORG: Institute of Semiconductors AN UkrSSR (Institut poluprovodnikov AN UkrSSR)

TITLE: Photosensitivity of thin semiconductive layers

SOURCE: Zhurnal nauchnoy i prikladnoy fotografii i kinematografii, v. 10, no. 6,
1965, 450-451 21.44.55 36

TOPIC TAGS: photosensitivity, visible light, semiconducting material

ABSTRACT: CuCl was found to have the same photosensitivity properties as are exhibited by PbI₂. When deposited in thin layers on quartz or glass, these compounds form latent images upon exposure to visible light. These images may be developed on heating. Temperatures required are 180-240°C for PbI₂ and 150-200°C for CuCl. If heated to these temperatures during exposure, the latent images appear on subsequent exposure to radioactivity. The source of light may also serve as the source of heat in developing the latent image. It was shown that other halides are also light sensitive. Compounds of sulfur (As₂S₃, Sb₂S₃, CdS, PbS), selenia (As₂Se₃) and

Card 1/2

UDC: 772.93.01

Card 2/2 mc

KOSTYSHIN, M.T. [Kostyshyn, M.T.]; ROMANENKO, P.F.

Study of the long-wave boundary of the self-absorption band
in orpiment. Ukr. Fiz. zhur. 9 no.2:166-171 F'64 (MIRA 17:7)

1. Kiyevskiy gosudarstvennyy universitet imeni Shevchenko.

ROMANENKO, P.I., inzh.

Excessive spare parts. Mekh. stroi. 17 no.12:20-21 D '60.
(MIRA 13:12)

(Machinery--Equipment and supplies)

ROMANENKO, P.N.
GRATSIANSKIY, Vladimir Nikolayevich; MIKHAYLOVSKIY, Yuriy Vsevoledovich;
ROGOV, A.Ya, retsenzent; ATRAN, S.L. , retsenzent; ROMANENKO, P.N.,
redakter; PITERMAN, Ye.L., redakter izdatel'stva; SHITS, V.P.,
tekhnicheskiiy redaktor.

[Power plants] Silovye ustanovki. Moskva, Goslesbumizdat. 1956.
303 p. (MLRA 10:4)
(Electric power plants)

ROMANENKO, Pavel Nikanorovich, professor; MOROZOV, Aleksandr Viktorovich, dotsent; ZAYCHIK, G.I., professor, retsentsent; MATVEYEV, G.A., redaktor; PITERMAN, Ye.L., redaktor izdatel'stva; KARASIK, E.P., tekhnicheskii redaktor; SHITS, V.P., tekhnicheskii redaktor

[Heatpower equipment in the lumbering and woodworking industry]
Teplosilovye ustanovki lesosagotovitel'noi i derevoobrabatyvaiushchai
promyshlennosti. Moskva, Goslesbumizdat, 1956. 471 p. (MLR 10:10)
(Electric power plants)

ROMANENKO, P.N., doktor tekhnicheskikh nauk, professor.

Technical and scientific conference on increasing steam and gas
turbine efficiency. Teploenergetika 4 no.1:55-57 Ja '57.
(MIRA 10:3)

(Turbines)

ROMANENKO, P.N.; MOROZOV, A.V., eds., ed. red.

[Thermal electric power plants of forest industry enterprises] Teplovye elektricheskie stantsii leso-promyshlennykh predpriatii. Moskva, Mosk. lesotekhn. in-t
1962. 84 p. (MIRA 18:3)

L 16159-66

EWI(1)/EWI(m)/ETC(F)/EPF(n)-2/EWG(m)/T WW/JW/DJ/WE/GS

ACC NR: AT6006914

SOURCE CODE: UR/0000/65/000/000/0280/0289

AUTHOR: Romanenko, P. N.; Semenov, Yu. P.

ORG: Moscow Forestry-Engineering Institute (Moskovskiy lesotekhnicheskiy institut)

TITLE: Friction and heat transfer in the turbulent boundary layer on a permeable surface during the injection of liquids and gases

SOURCE: Teplo- i massoperenos. t. II: Teplo- i massoperenos pri vzaimodeystvii tel s potokami zhidkostey i gazov (Heat and mass transfer. v. 2: Heat and mass transfer in the interaction of bodies with liquid and gas flows). Minsk, Nauka i tekhnika, 1965, 280-289

TOPIC TAGS: transpiration cooling, cooling, heat transfer, skin friction

ABSTRACT: A study was made of the effect of fluid injection through a porous plate on the skin friction and heat transfer in the boundary layer. The experiments were conducted with water, ethanol, glycerin, air, helium, argon, freon-12, and an air-freon-12 mixture, which were injected through a porous copper plate into a rectangular duct in which air at 500-625K was flowing at speeds of 15-80 m/sec. The gas and the wall temperatures and the boundary layer parameters

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ACC NR: AT6006914

were determined to obtain velocity and temperature profiles in various cross sections. Plots of St/St_0 (St is the Stanton number under actual conditions and St_0 , the Stanton number without injection) vs. a dimensionless injection parameter showed that the injection of liquids, e.g., of water, is as effective as the injection of gases, e.g., helium or hydrogen. Therefore, the wall temperatures can be efficiently reduced by injecting small amounts of liquids. The latter finding is in contrast to previous conclusions claiming that at low liquid injection rates the heat flux to the wall increases. Orig. art. has: 9 formulas and 2 figures.
[PV]

SUB CODE: 21/ SUBM DATE: 09Nov65/ ORIG REF: 004/ OTH REF: 007/ ATD PRESS: 4204

DL
Card 2/2

L 33028-66 EWT(1)/EWP(m)/EWT(m)/EWP(j) RM/WW
ACC NR: AP6014400 SOURCE CODE: UR/0096/66/000/001/0080/0083

UTHOR: Romanenko, P. N. (Doctor of technical sciences, Professor);
emenov, Yu. P. (Engineer) 53

ORG: Moscow Wood Technology Institute (Moskovskiy lesotekhnicheskiy
institut) B

TITLE: Effect of transverse mass flow on heat transfer in turbulent
flow past a flat porous surface

SOURCE: Teploenergetika, no. 1, 1966, 80-83

TOPIC TAGS: convective heat transfer, turbulent flow

ABSTRACT: The article gives the results of an experimental
investigation of heat transfer in turbulent flow past a porous plate,
with feeding of air, helium, argon, and Freon-12 into the boundary
layer. The experimental apparatus consisted of a thermally insulated
channel of rectangular cross section, in the lower wall of which was
inserted a copper plate with a porosity of 35%. The dimensions of the
plate were 280 x 130 x 10 mm. The length of the working section was
400 mm and the dimensions of the rectangular section were 155 x 80 mm.
During the experiment, the following quantities were measured: the

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ACC NR: AP6014400

frictional parameters of the air flow in front of the experimental section, the distribution of the static pressure along the length of the section, the temperature of the plate at nine points on the upper surface and nine points on the lower surface, the dynamic pressure and the flow temperature at five cross sections, and the temperature and flow rate of the cooling medium at the inlet to the working section. The heat transfer coefficient was determined from the integral energy relation and from the heat balance equation. The results are shown in a series of curves. Agreement of the experimental and calculated values is not bad, although there is a certain deviation of the experimental data toward the side of an increase in heat transfer. Although the molecular weight of argon is greater than that of air, its injection lowers the heat transfer coefficient somewhat more significantly than injection of air. Orig. art. has: 7 formulas and 7 figures.

SUB CODE: 20/ SUBM DATE: none/ ORIG REF: 006/ OTH REF: 009

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2/2 20

ROMANENKO, P.N.; KHARCHENKO, V.N.

Resistance and heat transfer on a permeable surface in
the case of gradient gas flow. Inzh.-fiz. zhur. 6 no.11:
9-13 N '63. (MIRA 16:11)

1. Lesotekhnicheskij institut, Moskva.

ACCESSION NR: AP4038657

S/0170/64/000/004/0008/0017

AUTHOR: Romanenko, P. N.; Kry*lova, N. V.

TITLE: Effect of inlet conditions on heat exchange in the initial portion of a tube

SOURCE: Inzhenerno-fizicheskiy zhurnal, no. 4, 1964, 8-17

TOPIC TAGS: Heat exchange, heat transfer, convective heat exchange, hydrodynamics, heat flow

ABSTRACT: The effects of smooth entry, convergent-channel inlets with constriction angles of 30, 45, and 60°, sudden contraction and expansion of the flow, and length of the thermal stabilization portion of the tube on heat exchange in the initial length of a tube were studied experimentally. Correlation of the data by means of the local analog theory makes it possible to extend these laws to any inlet conditions except the region near the entry section with sudden flow expansion. Formulas are derived for determining the thermal stabilization length with predetermined laws governing the change in wall temperature and heat

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ACCESSION NR: AP4038657

flow along the length of the tube. Orig. art. has 4 figures, 28 formulas, and 1 table.

ASSOCIATION: Lesotekhnicheskiy institut, Moscow (Institute of Forest Technology)

SUBMITTED: 26Jul63

DATE ACQ: 19May64

ENCL: 00

SUB CODE: TD, : 1

NO REF SOV: 015

OTHER: 001

Card 2/2

GRATSIANSKIY, Vladimir Nikolayevich; MIKHAYLOVSKIY, Yuriy Vsevolodovich;
Prinimal uchastiye ROMANENKO, P.N.; MIKHAYLOVA, L.G., red. izd-
va: GRECHISHCHEVA. V.I., tekhn. red.

[Fundamentals of heat engineering and power plants] Osnovy teplo-
tekhniki i silovye ustanovki. Izd., perer. i dop. Moskva, Gos-
lesbumizdat, 1962. 434 p. (MIRA 16:7)
(Heat engineering) (Power plants)

ROMANENKO, P.N.; LEONT'YEV, A.I.

Experimental study of the turbulent heating of a boundary layer in the motion of a gas in axisymmetrical diffusers with cooled walls. Trudy
MIIT no.139:134-158 '61. (MIRA 16:4)

1. Moskovskiy lesotekhnicheskii institut.
(Heat-Transmission) (Diffusers) (Fluid dynamics)

PATSIORA, P.P., prof.; SHESTAKOVSKIY, G.F., inzh.; ROMANENKO, P.N.,
prof.; MOROZOV, A.V., kand. tekhn. nauk; dots.; ZARETSKIY,
M.S., red.; MIROPOL'SKIY, Z.L., red.; POPOVA, A.G., red.
~~isd-va~~; SHIBKOVA, R.Ye., tekhn. red.

[Power engineering in the lumber industry]Energetika lesnoi
promyshlennosti; spravochnik. Moskva, Goslesbumizdat, 1962.
545 p. (MIRA 16:3)
(Electricity in lumbering--Handbooks, manuals, etc.)

ROMANENKO, P.N.; KHARCHENKO, V.N.

Effect of a transverse mass flow on skin friction and heat transfer in turbulent flow of a compressible gas. Inzh.-fiz. zhur. 6 no.2:52-59 F '63. (MIRA 16:1)

1. Lesotekhnicheskii institut, Moskva.
(Heat--Transmission)
(Frictional resistance (Hydrodynamics))

ROMANENKO, P.N. (Moskva); KHARCHENKO, V.N. (Moskva)

Injection of gases into a turbulent boundary layer with a longitudinal pressure gradient and its effect on frictional resistance.
PMTF no.1:77-83 Ja-P '63. (MIRA 16:2)
(Frictional resistance (Hydrodynamics)) (Boundary layer)
(Gases)

L2080

S/170/62/005/011/005/008
B104/B102

10 500
AUTHORS: Romanenko, P. N., Leont'yev, A. I.

TITLE: Resistance in the diffuser range of a flow in the formation
of a turbulent boundary layer at the wall

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, v. 5, no. 11, 1962, 87-89

TEXT: Various methods of determining the local friction coefficient in a gradient flow of a gas, already treated in numerous publications, are here reviewed. In a previous paper (PMTF, no. 5, 1961) P. N. Romanenko, A. I. Leont'yev and A. N. Oblivin extended the method devised by F. H. Clauser (IAS, 21, 2, 1954) for isothermal gas flows to non-isothermal gas flows. The authors consider that the extended method gives the best results.. In the previous paper it was shown that, for determining the friction coefficient by Clauser's method, the method of A. Buri (Eine Berechnungsgrundlage für die turbulente Grenzschichte bei beschleunigter und verzögerter Strömung - A calculation base for the turbulent boundary layer of accelerated and decelerated flow. - Dissertation. Zürich, 1931) gives reliable results which can be extended to a turbulent boundary layer with

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Resistance in the diffuser ...

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a longitudinal pressure gradient and with heat exchange. The definition of the friction coefficients expressed by a relation between the form parameters $\zeta = \tau_w \text{Re}_\theta^{1/4} / u_1^2$ and $\tau = \frac{\theta}{u_1} \frac{du_1}{dx} \text{Re}_\theta^{1/4}$ differs essentially from that suggested by Buri. Here $\text{Re}_\theta = u_1 \theta / \nu$. The results obtained by the formula $\zeta = 0.046 / (T_w^* + 1)^2 (1 - \tau)^{20}$ suggested by the authors in their previous paper are in good agreement with the experimental data. $T_w^* = T_w / T_{01}$, where T_w is the temperature at the wall of the body flown around by the liquid, T_{01} is the stagnation point temperature θ is the thickness of momentum loss, τ_w is the tangential stress at the wall. There is 1 figure.

ASSOCIATION: Lesotekhnicheskii institut, g. Moskva (Forestry-engineering Institute, Moscow)

SUBMITTED: November 3, 1961

Card 2/2

100-10000, 1. 11.

USSR/Engineering - Thermodynamics, Jets Jun 53

"On the Ejection Theory and Design of Jet Apparatus," P. N. Romanenko

Iz Ak Nauk SSSR, OTN, No 6, pp 837-855

Discusses basic aspects of new theory of ejection, developed with utilization of regularities for free turbulent stream, and method, based on this theory, for calcg design elements of jets. Bibliography, listing 8 titles, includes 4 German and 2 English publications. Presented by B. S. Stechkin, Corr Mem Acad Sci USSR 8 Oct 52

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NAZARCHUK, Mikhail Mikhailovich; ROMANENKO, P.N., doktor tekhn.nauk,
otvetstvennyy red.; REMENNIK, T.K., red.izd-va; ZHUKOVSKIY, A.D.,
tekhn.red.

[Problems in the theory of adiabatic flow of gas in channels]
Nekotoryye voprosy teorii adiabatnykh techenii gaza v kanalakh.
Kiev, Izd-vo Akad.nauk USSR, 1957. 73 p. (MIRA 11:5)
(Gas flow)